

HENRY K. TOWNES, Jr.

The Man and the Scientist  
An Appreciation

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My association with Henry Townes goes back to 1957, when I came to work as a graduate student under his guidance. Ever since I have admired his personal and professional qualities and have developed an appreciation for him as a man and a scientist, unique in many ways.

When I began my work on the Ichneumonidae of India in 1954, I soon discovered how inadequate the existing literature was. During the course of my correspondence with the ichneumonid workers, I came in touch with Henry Townes, who helped me with literature, specimens, and advice. This culminated in my coming to the University of Michigan as a graduate student in 1957 to work on the Ichneumonidae. That was a turning point in my career and the beginning of an association with a leading taxonomist, which I have always cherished. Before leaving India for Ann Arbor, I was advised that the American Professors rarely see their graduate students, at best once a week, and that I should not bother him with problems (as I used to do in India when I did not get anywhere). To my surprise, Henry was often by the side of my desk, looking at my specimens and giving me practical tips. I soon discovered that he was freely accessible and that I need not wait for the weekend to solve my queries. When I returned to work with him in 1980, after a gap of nearly 19 years, I found his working habits the same. He was by the side of my desk as often as he got tired of looking into his own microscope. During the intervening years I was in active correspondence with him and he readily offered me help and advice on all taxonomic matters.

I was no exception. Henry has been most communicative and helpful to all his students and colleagues. His attitudes have gone a long way towards progress in ichneumonid taxonomy that we see all over the world. He attracts students from all over the world who come to study his collections and seek his advice.

#### THE FORMATIVE YEARS

Henry Keith Townes, Jr. was born in Greenville, South Carolina on January 20, 1913, the third of the six children of Henry K. and Ellen Hard Townes. According to his family, he has been sensitive, independent, self-contained, mischievous, and a naturalist from his very early age. His family encouraged his interests. He was unusually knowledgeable about natural sciences for his age, much to the annoyance of some of his teachers.

Henry Townes' first collecting activity was the butterflies. He set out to collect all the species of butterflies of South Carolina. At the age of 10 or 11 he won a second prize for his exhibit of 47 out of 50 kinds of butterflies that were known to occur in South Carolina. He missed the first prize, not for the species that he had not collected, but because his contender had arranged and prepared the butterflies better. From the butterflies his

interest shifted to the crane-flies, when he came in contact with leading taxonomists like J. Speed Rogers and C. P. Alexander.

Henry Townes took his college training at Furman College (now Furman University) in Greenville, South Carolina, from 1929 to 1933. He completed the requirements for a B.S. degree in three years. His family felt that he was too young to leave for a graduate school; so during his fourth year at Furman he took courses in Languages for a B.A. degree. At the 1933 commencement exercises he was the only graduate to receive two degrees -- B.S. and B.A. When his brother Charles, repeated this achievement, the college made a rule that a student could not be awarded more than one degree at a commencement.

#### GRADUATE WORK

Henry Townes joined the Cornell University in the fall of 1933 to study Entomology. Cornell was perhaps the best place to study Entomology at that time. The real challenge and excitement must have come from his courses in Entomology with well-known and knowledgeable professors. After some investigation of smaller Hymenoptera he decided to do his thesis on some taxonomic problem in the Ichneumonidae under Professor J. Chester Bradley. This was a challenging position, for Professor Bradley was known to be an exacting scholar and to leave his students pretty much on their own. Before Henry only J. D. Hood had completed his doctorate under Professor Bradley.

In 1933 there was very little reliable literature on the Ichneumonidae, nothing to provide a really practical introduction to the family. There was the publication of W. C. Davis on the subfamily Tryphoninae. With this as a guide, Henry tried to classify the Cornell collections. He found the going difficult and, while some of the specimens before him could be identified, many could not. There seemed to be gaps and confusions and he was left with many questions. Eventually it became evident to him that the only way to provide reliable answers to the questions was to check the type-specimens. So Henry began to travel to see the type-specimens and comparing his collections with the types and labeling them as homotypes. It was soon clear that there were many misdeterminations in the literature and many synonymies and the best way to go about was to revise groups based on a study of the types. Prior to him not much attention had been paid to the study of the types. The literature was supposed to be sacrosanct and provide all the information necessary for identification. What did not match with the literature was supposedly a new find. Henry initiated the study of the types -- which is now a standard practice in any taxonomic study.

Henry continued to work towards his Ph.D. degree, supporting himself with odd jobs, building up his own collections, and comparing them with the types. In 1937 he finished his thesis on "The Nearctic species of *Netelia*", in which many new innovations were made about the classification of the Ichneumonidae. During the summers of his graduate work he was employed by the New York State Stream Survey, which also gave him an opportunity to make collections of his own. This work and the aquatic collecting also resulted in his publication on the Nearctic Tendipedini.

## MARJORIE CHAPMAN

Henry Townes and Marjorie Chapman, a native of Westerly, Rhode Island, a graduate of Mt. Holyoke College and with a Ph.D. in Botany from Cornell in 1935, were married on October 9, 1937.

They had met at Ithaca at the home of the Baptist student pastor where she was preparing dinners and baby sitting to help pay her expenses. Their courtship included collecting trips, visits back and forth to Mt. Holyoke College where she taught for two years and to meet the two concerned families. Henry very much admired the close cooperation between the Comstocks (John Henry and Anna B.) and Marjorie agreed that a similar partnership would be an ideal to strive for. They have worked together ever since. Her contributions towards the advancement of Ichneumonology, though cryptic, are as important as the contributions of Henry. She sacrificed her career in Botany for the cause of ichneumonid taxonomy and has willingly and readily taken care of all the chores that go with research. They have inspired me in the same way as Comstocks inspired them.

## THE CAREER

In spite of his academic accomplishments, Henry had a hard time finding a job, particularly at the time when he was planning to get married. Those were the days of the recession. After considering almost any possibility, even working on the Cornell grounds crew, he was appointed to a first semester position in the Zoology Department at Syracuse University with a salary of \$800 for the semester. This was later extended through the full school year. In 1938, they returned to Ithaca where Henry had been appointed to teach medical entomology to substitute for Professor Robert Matheson who was on leave. Adding to his collections was a matter of primary importance to Henry and in Ithaca and elsewhere, both collected ichneumons and other insects whenever time and opportunities were available. As Henry became known for his ichneumonid works, gifts of specimens collected by friends and collections for naming started coming. These supplemented their personal collectings and the collections continued to grow. At the same time they maintained and worked upon a card file on the Ichneumonidae, which was continuously updated as and when the type-specimens were examined and synonymies and homonymies discovered. With the return of Professor Matheson, the position at Cornell terminated. The next opportunity came with a grant to work at the Academy of Natural Sciences of Philadelphia preparing "A catalog and reclassification of the Nearctic Ichneumonidae". This was completed in 1941, and after usual publication delays, published in 1945-46.

The preparation of the Nearctic Catalog required hundreds of decisions about nomenclature. It was obvious that such an abundance of decisions must be handled objectively rather than subjectively. It was necessary for Henry to review his options and define his rules. It became clear that the only way to reach the desired nomenclatural stability was to apply the rule of priority without exception, without presenting cases to the International Commission for rulings and that could be overturned with a different set of commissioners persuaded by taxonomists who had different reasons for preserving other names. Henry has ardently followed the Law of Priority, much to the annoyance of many workers. However, this practice has produced a nomenclature in the

Ichneumonidae that has come to stay and has already gained acceptance with the majority of workers.

Henry has always given the highest priority to collecting of specimens afresh for any taxonomic revision. Both Henry and Marjorie have been active collectors and have undertaken several collecting trips. Early in their career they collected several thousand specimens in the Pacific northwest and in Western U.S.A. These collections yielded valuable specimens from areas that have not been previously explored thoroughly. The taxonomic revisions produced at a later date incorporating all these collections have given us a better picture of the nearctic fauna and a better understanding of the faunal relationships.

With the expiration of the catalog grant, there was again the need to find a paying job. The family, now with a son and a daughter, was left in South Carolina while Henry worked briefly in Virginia on insects in apple orchards. Later he moved to the U.S. National Museum, as a taxonomist in Orthoptera. They settled in Takoma Park, a suburb of Washington, which is documented by the fact that there are thousands of ichneumonids from Takoma Park in his collections. The Pearl Harbor had just been attacked. As more and more taxonomists were drafted for the war service, work on the wasps and on the Ichneumonidae were added to Henry's job. It was during this time that he wrote papers on Dermaptera and on the Pepsinae and Ceropalinae in the Psammocharidae (= Pomplidae). He also initiated the project to write a catalog of Nearctic Hymenoptera on the pattern of the Ichneumonid catalog. With several of his colleagues at the National Museum and with the collaboration of a number of other specialists, this catalog was completed and published in 1951. It was during this time that DDT was beginning to be used on a broad scale to control insect pests, that Henry spent a summer on a team surveying the effects of spraying DDT on the insects in a forest in Central Pennsylvania, one of the earliest efforts to evaluate the consequences of such a treatment. When R. A. Cushman retired, Henry was formally appointed to the National Museum position as a specialist on the Ichneumonidae.

Henry was apparently never satisfied with his job at Washington. His views on taxonomy and nomenclature conflicted with those of his colleagues. He also did not like to live far away from his working place. In 1949 the Townes moved to Raleigh, North Carolina. Henry Townes accepted a position, at a lower salary, at the North Carolina State University to work on insects affecting tobacco. His work on the Ichneumonidae slowed down, but his collecting continued, with all his spare time and weekends devoted to that. There were accomplishments in Economic Entomology; Perhaps the most notable was the initiation of studies on the role of *Polistes* wasps in biological control in tobacco fields which led to various studies on the biology and behavior of those insects. His contacts with the students were stimulating, both for him and his students.

#### EXOTIC COLLECTIONS

Henry's first experience of collecting exotic fauna came in 1945 with his appointment as an Entomologist on a survey of the Mandated Islands of the Pacific. The specimens from this survey were deposited in the National Museum, but the experience on the trip was a step in expanding his view on the world fauna. The next opportunity came with his appointment as an advisor to the Philippine Government on pests of rice and corn with the

Economic Cooperation Authority. From 1952 to 1954 the Townes family was resident in Manila. While attending to his job, he utilized every possible opportunity to collect insects in the Philippines particularly the Hymenoptera. A very valuable lot of exotic specimens was added to the Townes Collection. This was augmented on the way back to the U.S.A. in 1954 with a stop in Japan to study the types in Sapporo and to collect in the environs of that city and in the Japanese alps.

His collecting in the Philippines had a direct effect on his interest in the Oriental fauna. This enabled several students from the Orient to work with him, notably Clare Baltazar, Sui-Chen Chiu, Virendra Gupta and Setsuya Momoi. The Townes have collected the Ichneumonidae practically all over the world when they traveled to study types for their catalogs and revisions of the genera of the Ichneumonidae. Where ever they went, they left a lasting impression with the students of Hymenoptera. Interest in the taxonomy of the Ichneumonidae thus flourished throughout the world.

#### A BREAK

Henry Townes has always been restless and looking for opportunities to work on the Ichneumonidae and other parasitic Hymenoptera. The opportunity finally came in 1956 with the Dow Chemical Company awarding him a grant to work on the Ichneumonidae at the University of Michigan for a period of five years. He resigned his permanent job at Raleigh and moved to Ann Arbor, Michigan. This was made possible by the late R. R. Dreisbach, a friend and collaborator with the Townes, who was a chemist at the Dow Chemical Company. Dreisbach, who was himself a student of the Aculeate Hymenoptera, conceived the idea and used his influence to get the grant, with no prospect of any profitable gain for the Dow Chemical Company. That grant was therefore unique for a chemical company to support research unconnected with their activities. It also provided the break that the Townes were looking for to devote their undivided attention to the study of the Ichneumonidae.

During this period the launching of the Sputnik was a blessing in disguise for the scientists in the country. Scientific research was revitalized with various Governmental agencies providing funding for basic research. The National Science Foundation provided support for ichneumonid taxonomy and for cataloging the Ichneumonidae of various zoogeographical areas. The National Institutes of Health also provided grants to work on the Ichneumonidae and on the Genera of Ichneumonidae of the World. There was freedom for work and research on the taxonomy of the Ichneumonidae flourished.

#### THE AMERICAN ENTOMOLOGICAL INSTITUTE

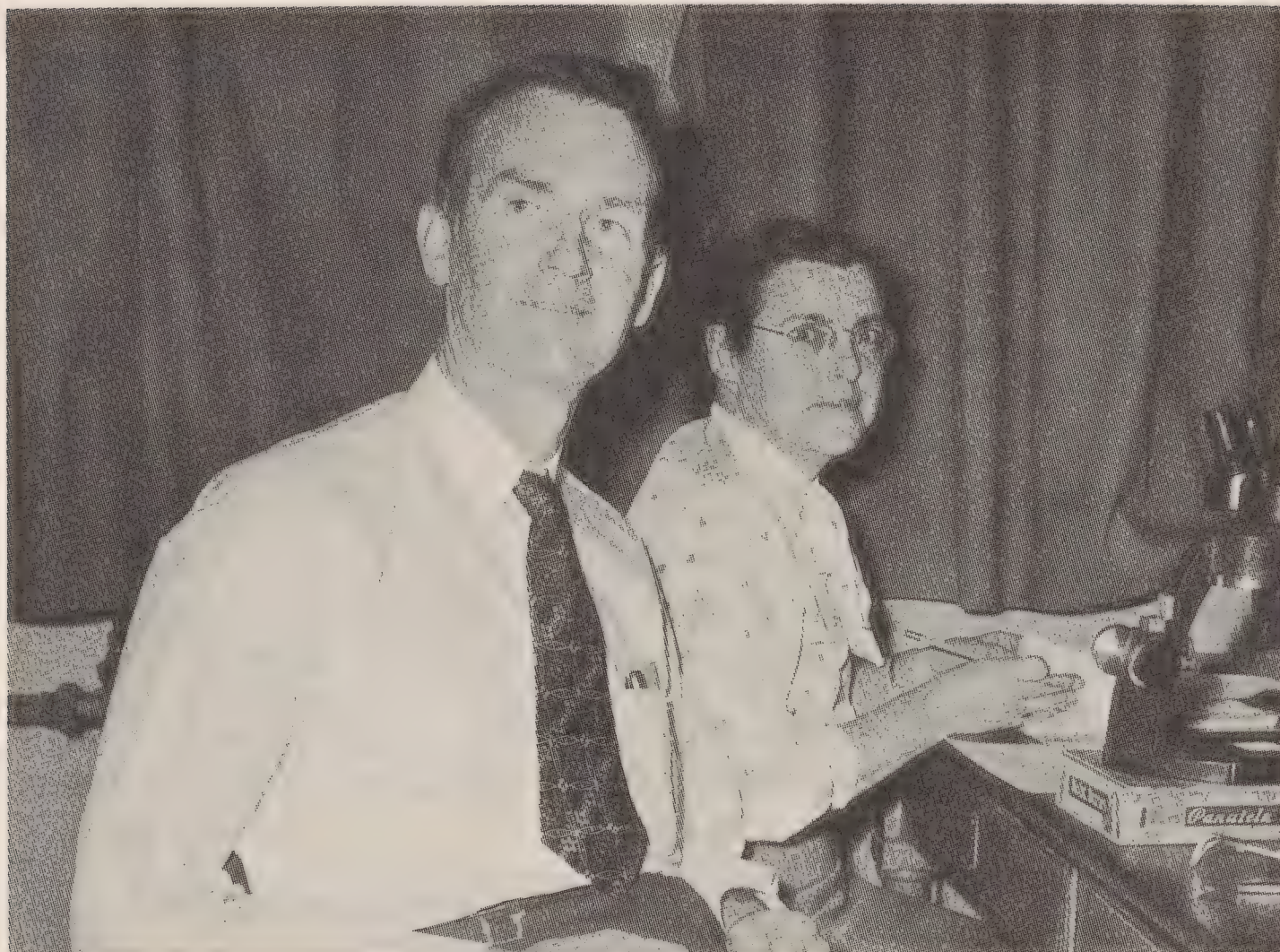
As work on the Ichneumonidae progressed and collections grew, the Townes faced two problems: a publication outlet for their voluminous works in the style they liked, and adequate space and housing facilities for their collections. These were solved by the Townes by establishing a non-profit research institution, the "American Entomological Institute" in 1962, and building their own laboratory for research in 1964. They also started their own publications, the "Memoirs" and the "Contributions" of the American Entomological Institute. To date 34 volumes of the Memoirs and 19 volumes of the Contributions have been published, including works of various authors as well as their own. Research has been conducted under various grants to the

Institute from the NSF and NIH. The Townes have also worked without external financial support. Taxonomic work has continued uninterrupted, regardless of whether a grant was available or not. Several collecting trips have been undertaken by them. The Townes Collection has grown, now totaling over 793,000 pinned and labeled specimens. An excellent library of Hymenoptera has been built up. This self contained research center has all that a working taxonomist would want. It attracts a number of scholars every year from far and near. It is a rewarding experience to work there; for Henry's help and advice are freely available. World collections are there to examine, and above all, the hospitality of the Townes is unforgettable. Marjorie Townes especially takes good care of her guests, providing them with excellent meals. One could walk in any time and will be well cared for!

Significant advancements have been made by the Townes and their students in the study of the Ichneumonidae during the past 25 years or so. The Townes have published revisions of the Ichneumonidae of North America, Catalogs and reclassification of Ichneumonidae of various zoogeographical regions, monographs on the World genera of the Ichneumonidae, a monograph on the Serphidae of the World, and miscellaneous papers on ichneumonid taxonomy and nomenclature. His students and colleagues have also been active, either collaborating with him or working independently on ichneumonid fauna of different parts of the world. Notable among them are Baltazar, Chiu, Gupta, Momoi, Dasch, and colleagues like Carlson, Porter, Gauld, Fitton, Aubert, Horstmann, Oehlke, Hinz, van Rossem, Zwart, and several others. We thus have solid basic literature on the Ichneumonidae on a world-wide basis, which does not appear to exist for any other group of insects. Further research and revisions on a world wide basis is progressing. And credit for this goes to the Townes.

#### THE FINALE

One of the things that had bothered the Townes for the past few years is the future of the collections and the Institute. Having labored so hard to build up the world's best collection of the Ichneumonidae and an excellent collection of other groups of the Hymenoptera, one is naturally inclined to find a satisfactory place where the collections will be well cared for. More than that the Townes are very much concerned with the lack of support for taxonomic research in this country. While most of the established institutes would like to possess his collections, no one was ready to insure that taxonomic research will continue uninterrupted on Ichneumonidae and other parasitic Hymenoptera. His efforts in finding a suitable locale for his collections and taxonomic research culminated in the establishment of the "Center for Parasitic Hymenoptera" in 1982 at the University of Florida, Institute of Food and Agricultural Sciences, thanks to the vision of Professor K. R. Tefertiller, Vice-President for Agricultural Affairs at the University of Florida and the Chief of the IFAS. This Center for taxonomic research on the parasitic Hymenoptera is unique in the World. The Townes collections and library forms the nucleus of the Center, and the Center will become the focal point of taxonomic research and training in the field of parasitic Hymenoptera. It is a tribute to Henry Townes, and his vision, who has relentlessly worked towards advancement of taxonomic research on the parasitic Hymenoptera.



### THE IMPACT

Scientific research needs dedication, whether it is taxonomy or molecular biology. Some may be more fashionable than the others, but all are equally demanding. In certain ways taxonomic research needs more dedication, because it takes a life time to specialize in one group of insects. No one person can specialize in all insects. The Townes have dedicated themselves to the study of Ichneumonidae. Although they have their idiosyncrasies, as any other scientist would have, they have given us several directions for research. Extensive collections have always been emphasized by them before undertaking any taxonomic revision. The study of types has been shown to be of paramount importance in all revisionary studies. Cataloging has been shown to be original research rather than merely copying data from zoological records. All the catalogs published by Townes and his students contain original information on the types and keys to genera. The taxa have been taxonomically assessed after the study of the types, resulting in several new combinations, synonymies, homonymies, etc. Without such catalogs further research on taxonomic revisions was impossible, as many species were originally assigned to wrong genera. With no keys to genera existing before, it was impossible to progress in the right direction. All his revisions included original illustrations at a time when illustrations were not fashionable, particularly in the U.S.A. The most useful tools that they have given us, are the volumes on the Genera of the Ichneumonidae, with each genus illustrated, keyed and described. What else does a beginner or an advanced student need to continue work on Taxonomy?

The Townes are readily accessible. Their hospitality is something to remember and working with them something to cherish. It is only befitting that we, his students and colleagues, celebrate the 70th birthdate of Henry Townes by presenting this collection of articles on Hymenoptera to him as a token of our regards and affection for him and his wife and working partner, Marjorie Townes.